

## WHAT THE INVENTION CLAIMED IS

1. A wafer packaging process of packaging light-emitting diode, comprising:

providing a wafer having at least a pad formed thereon,

forming a patterned photoresist layer formed on a surface of said wafer, wherein at

5 least an opening is formed in said patterned photoresist layer exposing a portion of said pad therein;

forming at least a conductive plug in said opening of said patterned photoresist electrically connecting a pad in said wafer; and

forming a resilient element on said conductive plug and electrically connecting  
10 said conductive plug.

2. The wafer packaging process of packaging light-emitting diode according to claim 1, wherein said conductive plug is formed by etching an opening in said photoresist layer and filling a conductive material in said opening by performing an electroplating process.

15 3. The wafer packaging process of packaging light-emitting diode according to claim 1, wherein said resilient element comprises a silver paste.

4. The wafer packaging process of packaging light-emitting diode according to claim 1, wherein said resilient element comprises a tin paste.

5. The wafer packaging process of packaging light-emitting diode according to  
20 claim 1, further comprising the step of forming a solder on an upper surface of said resilient element.

6. The wafer packaging process of packaging light-emitting diode according to claim 5, wherein said solder comprises a tin paste.

7. The wafer packaging process of packaging light-emitting diode according to claim 5, wherein said solder comprises a tin ball.

8. A wafer packaging process of packaging light-emitting diode, comprising:

(a) coating a first photoresist layer on an uncut wafer having a plurality of pads

5   formed thereon;

(b) etching said first photoresist layer for forming a plurality of first openings until a portion of said pad within said first openings are exposed;

(c) performing an electroplating process for filling a conductive material in said first openings to form a plurality of conductive plugs electrically connecting with said

10   pads;

(d) coating a second photoresist layer on a surface of said first photoresist layer;

(e) etching said second photoresist layer for forming a plurality of second openings until a portion of said conductive plugs is exposed within said second openings;

(f) filling said second openings with a conductive resilient element;

15   (g) performing an electroplating process; and

(g) cutting said wafer to form a plurality of packaged light emitting diodes.

9. The wafer packaging process of packaging light-emitting diode according to claim 8, wherein after said step (a) further comprising baking said photoresist layer to harden said first photoresist layer.

20       10. The wafer packaging process of packaging light-emitting diode according to claim 8, wherein said step (b) comprises the steps of using a photo mask to expose said first photoresist layer and etching the exposed portions of said first photoresist layer to form said first openings.

11. The wafer packaging process of packaging light-emitting diode according to claim 8, wherein before said step (c) further comprising a step of cleaning a surface of said first photoresist layer and exposed portions of said pad.

12. The wafer packaging process of packaging light-emitting diode according to claim 8, wherein after said step (d) further comprising a step of baking said second photoresist layer to harden said second photoresist layer.

13. The wafer packaging process of packaging light-emitting diode according to claim 8, wherein said step (e) comprises the steps of using a photo mask to expose said second photoresist layer and etching the exposed portions of said second photoresist layer to form said second openings.